West Virginia Resiliency Office

Establishment Guide
and Best Strategies
October 16, 2017

Contents

Overview / Summary of Recommendations

The purpose of this guide is to support the West Virginia Department of Commerce's Development Office in developing and implementing the West Virginia State Resiliency Office (SRO). The sections of this document include recommended actions for implementation, including examples and best practices from similar efforts throughout the country. The recommendations range in terms of applicability. Some will need to be applied immediately to get the office stood up, while others could be long term goals. It is recommended that the SRO take a phased approach to implementation based upon the capacity and priorities of the state and office.

West Virginia is in a unique position to make resiliency a priority and change the paradigm for how decisions are made statewide. The SRO and resiliency in general must be fully engrained in the state, with decisions being made through the lens of resiliency. This guide serves as a starting point to get the department up and functioning. It is also the first draft of an evolving document. Pertinent document references will be provided in the future, and the IRC staff is willing to provide expanded research in areas that are a priority for the state. It will then be up to the SRO and state leadership to tailor the office to fit current and future needs of the state.

A brief overview of each section and its intended use follows:

Section 1: Resiliency Framework
This section: 1) outlines seven steps to develop a statewide resiliency framework, which can guide the state in how it addresses the shocks and stresses communities face; 2) empowers action to reduce vulnerability; and, 3) improves adaptability; and builds social capital in the face of hazards and changing conditions.

Recommendations: Develop a comprehensive Resiliency Framework that considers the state's social, physical, environmental and economic sectors for the state through a process that engages key stakeholders from across the entire state. The Framework should consist of at least seven steps which outline a path to address the challenges West Virginia communities face, empowering action to reduce vulnerability, improve adaptability, and build social capital in the face of hazards and changing conditions. Specific recommendations for each step are included in Section 2 of this guide.

Section 2: Staffing Needs, Roles, and Responsibilities
Here are considerations for how the state could set up the SRO staff structure, as well as the roles and responsibilities of the SRO as a whole. Also included is a list of suggested pre-disaster and post disaster activities for SRO staff.

Recommendations: As the SRO is established, support recruitment and retention of three core SRO staff: one director, and two project coordinators or specialists. As responsibilities increase and/or declared disasters arise, more dedicated involvement from SRO staff or additional personnel will be required to assist recovery in the impacted areas.

Beyond what is outlined in the legislation, the overall roles and activities of the SRO should include the following: 1) Provide ongoing training opportunities; 2) Promote forms of planning; 3) Ensure investments decrease vulnerability; 4) Develop a resilience data resource; 5) Assess at-risk assets; 6) Develop technical assistance and tools; 7) Identify or establish funding opportunities; and 8) Promote FEMA's community rating system.

Section 3: Organizational Chart
This section provides a recommended organizational structure for the SRO within the state government structure, including direct lines of authority and collaborative relationships with specific resiliency partners across the entire state.

Recommendations: The SRO is well positioned within the Department of Commerce's Development Office. It is key for the office to have latitude to reach across state departments and sectors to communicate and provide expertise for resiliency related items. This also includes engagement, communication and consultation across all sectors of society.

Section 4: Coordination with Partners
Here, the critical relationships, partners, and agencies the SRO should coordinate with in order to be most effective are outlined. The benefits of collaborations and methods of communication are also detailed.

Recommendations:
1. Develop and maintain open and effective communication and collaboration with all partners – local, state, and federal government agencies, local organizations, non-profits, non-governmental organizations (NGOs) – volunteer, and others. It is critical to not only follow the direct line of authority indicated in the organizational chart above, but to maintain working relationships with state and federal partners.

2. Work with existing processes to develop and maintain communication with all partners. Schedule regular, recurring meetings or conference calls to provide a venue for the SRO and partners to provide updates and ask questions.

3. Coordinate an annual summit, or other event in which resiliency training and planning activities can be provided to benefit all parties. Look at the possibility of leveraging existing events, such as the annual RPDC conference for the purpose of education and training.

4. Develop working groups or other committees as specific circumstances or opportunities present themselves.

5. Consider creating an SRO website or SharePoint site that all partners can access in order to share project updates, funding opportunities, and maintain a central repository for resiliency planning resources.

Section 5: Specific Factors for West Virginia Resiliency

This discussion encompasses the intertwined recovery and resiliency issues that impact the state as a whole, along with recommendations on how the SRO may lead or guide initiatives to address these issues. Implementation for almost all of the proposed solutions will require coordination across the entire state.

Recommendations: Include resiliency planning and functions in all efforts by addressing identified cross-cutting issues throughout West Virginia: 1) Communications and coordination; 2) Capacity; 3) Community Engagement; 4) Affordable Housing; 5) Broadband; 6) GIS Data; and 7) Economic Development. Specific recommendations for each cross-cutting issue are included in Section 8 of this guide.

Section 6: Monitoring and Measuring Progress

Methods by which the SRO can develop metrics to measure the success of their efforts, along with a scorecard for implementation of resiliency on a statewide level are presented.

Recommendations: Identify a set of performance metrics that can be used to independently evaluate the success of state-funded projects and identify benchmarks for success. Also, conduct an overall assessment of the implementation and application of resiliency across all state departments.

Section 7: Resources and Funding to Support Resiliency

Resources and funding opportunities are identified that may be leveraged by state and local entities to incorporate resiliency measures. This list is far from comprehensive but it provides the most common and consistent Federal resources that other states have identified and continually utilize.

Recommendations: Use state and federal resources to sustain the activities of the WVRO and all necessary staff, and work to include operational and staffing funds within each annual West Virginia State budget. Communicate available resources to other state agencies and local governments to support implementation of resiliency measures.
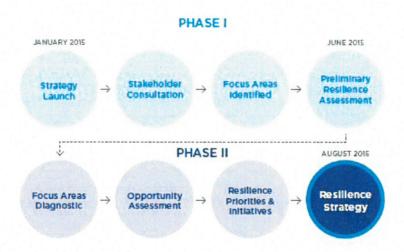
1. Resiliency Office Framework

A resiliency framework provides a state or community with a clearly defined path to address the shocks and stresses they face, empowering action to reduce vulnerability, improve adaptability, and build social capital in the face of hazards and changing conditions. The framework is not a standalone plan like a hazard mitigation plan or a comprehensive plan. Rather, a resiliency framework provides a collaborative forum to assess current risks, plans and practices, and to build resiliency into policies, actions and investments across multiple sectors and state entities.

A resiliency framework is meant to build on existing plans, policies and investments through an assessment of existing conditions in the community. Resiliency frameworks consider how the reduction of vulnerability to both shocks and stresses can integrate into day-to-day activities and long-term vision and goals. Through extensive stakeholder and public engagement, the framework planning team should also develop consensus about the state's vision and goals for resiliency, and use community input to guide development of strategies and ideas that help fulfill the vision and meet the established goals.

Inclusion of a broad range of stakeholders can help identify the resiliency-related strengths and challenges across the state. One mechanism for achieving this goal is to hold visioning and strategic planning meetings. Another option could be to conduct surveys, interviews, focus groups and small-group engagement sessions. Stakeholder engagement throughout this process will lead to meaningful and substantive input, as well as lay the foundation for implementation. Critical components of a resiliency framework include:

- A common understanding of resiliency and how it relates to state values;
- An analysis of baseline existing conditions in the state and the shocks and stresses that it faces;
- An inclusive engagement process that informs the public about the importance of resiliency, and informs the planning team as it develops the framework;
- A vision for the state that is supported by forward-looking goals, actionable strategies, and projects for action; and
- An articulated roadmap for ongoing coordination and action.

PHASE I

JANUARY 2015   JUNE 2015

Strategy Launch → Stakeholder Consultation → Focus Areas Identified → Preliminary Resilience Assessment

PHASE II   AUGUST 2015

Focus Areas Diagnostic → Opportunity Assessment → Resilience Priorities & Initiatives → Resilience Strategy

Resiliency Framework Process

Step 1: Establishing Working Groups

One of the first and most important steps for development of a resiliency framework is to identify critical stakeholders to engage throughout the process. Questions to ask for establishing the team should include: Who should lead the process? Who needs to be at the table? What are the most effective ways to engage stakeholders and the public? Who will take ownership for implementation? How can the process be transparent? It is important that the team represent a wide variety of stakeholders within the state.

Recommendation: Use the board members identified in the SRO legislation to compose one of the multiple initial working group. After the first few meetings, assess any weaknesses or needs to ensure the group is comprehensive and inclusive. Ensure that the board members and/or their designee understand the time requirements that must be devoted to the framework and necessary technical proficiencies. When you have a compiled list of the core group of people immediately involved, start a second list of all the people, groups or agencies that your committees and subcommittees should communicate with in order to be successful. Think about the connections you have and the ones that you need to be successful.

Step 2: Establish Executive Committee

Developing a resiliency framework relies on strong leadership to identify and convene the right team, establish goals, set timelines, and synthesize input from the resiliency framework team and the public. The leadership group will ultimately drive implementation and coordinate maintenance and updating of the framework. It is helpful to the process if leadership has prior experience facilitating a planning or stakeholder engagement process, and the ability to work constructively with all participants to understand and integrate state values into the framework development process. The formation of an executive committee helps direct the planning process

and ensures a broad spectrum of state interests are represented. Additionally, it is important to establish ownership of the plan to ensure it is a living document with identified, pre-scheduled maintenance activities.

Recommendation: Create an executive committee of dedicated appointees that have the time and skillset required to see the project to fruition. Solicit the use of professional facilitation to guide the formal process. Let the steering committee design the framework with input from other members. Once areas of resiliency are identified, create working groups for each function that can report back to the entire board on a regular basis. Find a way to include the public and all geographic areas of the state. The sector working groups should be composed of both board members and subject matter experts to ensure a quality end product.

Step 3: Establish a Resiliency Vision Statement
The State's vision statement defines what the State wants to become and establishes the means to get there. It should signal the direction for the state's resiliency future, provide a foundation for strategic planning efforts, and in no uncertain terms, outline what the state represents.

Recommendation: Identify the common values of West Virginia and what it means to be a part of the state. Establish what the state is known for, what makes it unique, and more importantly, what would you like the state to be known for in terms of resiliency. Benchmark vision statements that the state has established in other planning documents and determine what time period the framework should address (10, 20, 30 years). These elements should be closely linked to the existing conditions, and shocks and stresses of the state.

VISION STATEMENT: OREGON EXAMPLE

"Oregon citizens will not only be protected from life-threatening physical harm, but because of risk reduction measures and pre-disaster planning, communities will recover more quickly and with less continuing vulnerability following a cascadia subduction zone earthquake and tsunami."

Step 4: Establish Guiding Principles
Guiding principles are themes or ideas that reflect the values important to the state, and should be expected outcomes of all resiliency activities. Establishing guiding principles early on in the resiliency framework development process can help define and articulate what the state hopes to achieve through the resiliency framework.

Recommendation: Once principles are established, make sure to articulate them at the very beginning of each resiliency planning workshop or meeting to provide context for how goals and strategies should be developed. Also, keep the principles in front of committees as a continual reminder of their importance. The principles should be included in every group's plans and documents, making it clear that they are for the state as a whole.

GUIDING PRINCIPLES: VERMONT EXAMPLE

"A resilient Vermont is better prepared for and able to more effectively manage and bounce back from natural disasters and climate-related shocks, and the risks they pose to our economy, environment, and social well-being. A resilient Vermont focuses on both proactively reducing our vulnerabilities and improving our response and recovery, to ensure that we are continually strengthening our resilience. We must be resilient at every level – from individual residents, households, and businesses and neighborhoods, to the entire community and state. There is a shared sense of responsibility for resilience at every level and across the public, private, and nonprofit sectors."

GUIDING PRINCIPLES: STATE OF WASHINGTON EXAMPLE

"**Life Safety and Human Health:** Residents of the state of Washington should not suffer life-threatening injuries from earthquake-induced damage or develop serious illness from lack of emergency medical care after an earthquake. This includes enforcing and updating building codes, eliminating non-structural hazards, and ensuring continuity of emergency health care.

"**Property Protection:** Public and private property within the state of Washington should be built, retrofitted, or rebuilt to minimize earthquake-induced damage. This includes proper design and construction of both structural and non-structural elements.

"**Economic Security:** Residents and businesses within the state of Washington should have access to income opportunities to meet basic needs before and soon after an earthquake. This includes sufficient employment opportunities, market access, distribution capacity, and supplier access.

"**Environmental Quality:** The natural resources and ecosystems of Washington State should be managed in such a way as to minimize earthquake-induced damage. This includes the use of proper growth management, accident response capacity, and industrial safety measures.

"**Community Continuity:** All communities within the state of Washington should have the capacity to maintain their social networks and livelihoods after an earthquake disaster. This includes prevention of social-network disruption, social discrimination, and community bias."

Step 5: Categorize Sectors of Resilience

Stakeholders need to consider state resiliency in sectors or focus areas and provide strategies to address potential shocks and stresses. Each sector represents a fundamental building block that supports the state's overall resiliency. Through this process, stakeholders should be asked the following questions:

1. What does resiliency mean for the sector? What does this look like in action?
2. What are the shocks and stresses most often associated with this sector?
3. What potential strategies could enhance resiliency in this sector?

Recommendation: Identify 4-8 sectors where West Virginia will focus its resiliency efforts. Sector-specific committees should be asked to develop a vision for resiliency for how their sector should address resiliency, examine impacts from acute shocks, and identify chronic stresses that may lead to an acute shock, affect the state's ability to rebound quickly, or impact daily quality of life. These sectors will serve as primary drivers around which all actions will be organized and assessed. In effect, they will help to translate the commitments made in the vision and principles, into the desired results and actions the state will undertake to fulfill them.

SECTORS OF RESILIENCE: COLORADO & OREGON EXAMPLES

Colorado: Community, Economic, Health and Social, Housing, Infrastructure, and Watersheds and Natural Resources.
Oregon: Business and Workforce Continuity, Coastal Communities, Critical and Essential Buildings, Transportation, Energy, Information and Communications and Water and Wastewater Systems

Step 6: Identify Strengths and Challenges to Sectors

Every state has unique conditions that can strengthen or challenge the development of resiliency. Additionally, shocks and stresses vary from one state to the next and play a key role in identifying the objectives of the resiliency planning process. The working group members and additional stakeholders should be best suited to identify and analyze the major shocks and stresses in West Virginia.

Shocks & Stresses

Acute shocks are sudden, sharp events that threaten the well-being of the state. The frequency and intensity of a particular shock can trigger additional shocks (such as a powerful flood triggering major infrastructure failure), and the scale of the impacts will vary widely for an event depending on a variety of factors and conditions. Stresses are conditions or pressures that grow more slowly, eroding development progress over time. Stresses should not be confused with broader systemic constraints (e.g., poverty and weak governance) that also inhibit people's well-being, but are a more permanent feature of the development context.

Recommendation: Have each working group member compose a list of stakeholders and subject matter experts. Hold a series of workshops or separate meetings where attendees are asked to examine the capacity and resilience of their sectors in more detail. The members of the sector groups should use their collective expertise to:

- Evaluate the current condition of the state's sector, systems and infrastructure to predict how they will perform during a disaster and how quickly they can be restored if disrupted or damaged;
- Develop targets for the desired levels of performance;
- Develop target timeframes for the restoration of services and functions following a disaster;
- Define the vulnerabilities and key interdependencies of each sector. (For example, when considered alone, water might be restored within a day, but its vulnerability is that it depends on electricity, which could take longer than a day.); and
- Prepare recommendations for statewide action to achieve desired targets.

IDENTIFY STRENGTHS & CHALLENGES: COLORADO EXAMPLE

Shocks: Numerous fires and floods in recent years; cyber-attacks and other technology crimes

Stresses: Aging infrastructure; increasing population; energy generation and distribution systems reaching capacity; climate, including Colorado's severe freeze-and-thaw cycles; changing climate trends.

Problems: Communities across the state need asset risk assessments and management tools to understand the threats and vulnerabilities of infrastructure they control as well as how to prioritize opportunities to reduce vulnerabilities; There is no common definition of "resiliency" and inconsistent design standards; Funding limitations do not allow criteria for project evaluation or to prioritize/implement improvements; and Infrastructure is not seen as interconnected between jurisdictions and there are no incentives to do so. *Colorado produced a Shocks and Stresses Worksheet," which will help to identify applicable shocks and stresses, the interdependencies between shocks and stresses that magnify vulnerability, and to understand how those vulnerabilities affect the community's ability to adapt to changing conditions or recover after an event.*

Step 7: Establish Goals, Strategies, and Recommendations

The final step is to assemble the recommendations that the committees or work groups have prepared, based on their meetings/workshops for each sector and derive from them a set of goals, strategies and recommendations that, if implemented, would lower risk, speed recovery, and have the greatest impact on the resilience of the state as a whole. They are intended to serve as tools for shaping the direction of planning, mitigation, and response, as well as the further development of policies that will improve statewide resilience.

Resiliency Goals

Goals establish observable and measurable end results that will help shape the overall vision the state envisions. Colorado's Visioning and Goals Worksheet can provide guidance on the creation of a community vision and goals.

Strategies & Recommendations:

At all stages of the resilience-building process, focus should remain on taking an integrated approach. An integrated approach looks at systems and linkages—specifically, it requires thinking about relationships between state-level departments, between the government and residents, between the public sector and academia, between the public and private sectors and between problems. Strategies form plans and methods to reach the state's specified goals and align with the overall vision. Strategies are a good way to link the resiliency sectors to recommendations and project ideas. Creating implementable strategies may require revisions and further stakeholder engagement.

Ultimately, there must be stakeholder consensus for recommendations, which should be derived from the recommendations that each work group develops and presents to the full board for inclusive decision making. The multiple working groups should be tasked with developing a working group report focusing on no more than 3-5 substantive action items. The action items must be achievable under current conditions.

Each recommendation and strategy must be tied to a method to monitor and measure progress. It is key that the SRO office is cognizant of development being made, while also looking to meet clearly identified targets. The progress should be tracked by the office on a continual basis and documented via the production of quarterly and annual reports. The working groups should establish the strategies and recommendations, and the SRO office should measure progress and report to the full board.

RESILIENCY GOALS: COLORADO EXAMPLE

1. **RISK:** Reduce risk to Colorado communities.
2. **PLANNING**: Enhance resiliency planning capacity in Colorado communities.
3. **POLICY:** Develop, align, and streamline policies to empower resiliency.
4. **CULTURE:** Create a culture that fosters resiliency, instilling an inherent sense of responsibility among all.
5. **INVESTMENT:** Ingrain resiliency into investments in Colorado.

RESILIENCY GOALS: VIRGINIA EXAMPLE

1. **INFORM** diverse leaders from government, business, and the community about natural, climate-induced and man-made risks and vulnerabilities;
2. **EDUCATE** key groups about the models for community resiliency planning;
3. **ACTIVATE** Virginia communities by providing tools to engage in resiliency planning.

RESILIENCY GOALS: BOULDER, COLO., EXAMPLE

1. **CONNECT AND PREPARE:** Prepare all segments of the community for uncertainty and disruption by encouraging community preparedness, creating a culture of risk awareness and personalizing resilience.
2. **PARTNER AND INNOVATE:** Capitalize on the collective problem-solving and creativity of our community by leveraging advances in data, research and observations to address emerging resilience challenges.
3. **TRANSFORM AND INTEGRATE:** Embed resilience into city operations and systems by transforming our approach to community resilience.

2.   Staffing Needs, Roles and Responsibilities

House Bill 2935 identifies and tasks the West Virginia State Resiliency Office (SRO) with numerous roles related to the planning and implementation of functions that make the state more resilient to natural disasters. Beyond the authority granted in the legislation, there are additional roles that the SRO must champion in order for the office to accomplish its mission. These functions will give the office sustained momentum and ensure that the state is better prepared for the next disaster.

The SRO must work to improve the capacity of communities and regions to absorb and recover from external events, such as natural disasters and economic trends. It is also to serve as the coordinated resource hub to engage federal, state, and local partners essential to incorporating resiliency into economic development plans, initiatives, and specific projects needed for long-term sustainable economic diversification in the entire state. The following section summarizes the key roles that resiliency offices around the country employ to make resiliency an ongoing priority and how they staff those offices.

Staffing Needs
In order to function under the office's mission, appropriate staffing and delegation of responsibilities is key. As the SRO develops, the initial optimal number of staff is three: one director, and two project coordinators or specialists. As responsibilities increase and/or declared disasters require regular, dedicated involvement from SRO staff, staffing needs will likely increase.

The role of the Director of the West Virginia State Resilience Office is to lead the creation of a cohesive resilience strategy for the state, and to plan, coordinate, and direct resilience efforts across state departments. The director will guide the creation of a resilience vision and strategy document, and work with local, state and federal partners and with external stakeholders to deliver key initiatives that will expand and complement the state's ongoing resilience work.

The office should also support the employment of project coordinators or similar positions to organize, coordinate and advance resilience and recovery processes at the local level. They should be responsible for professional-level planning, implementation and support of disaster recovery goals, objectives and strategies following a disaster. Their primary role is to manage and coordinate support of local efforts to redevelop and build community. In addition, the individuals occupying the positions should be able to represent and speak on behalf of SRO leadership. The position should work to integrate multiple stakeholders and efforts on behalf of local resiliency and recovery efforts.

Roles and Responsibilities
Provide Ongoing Training Opportunities
The SRO should establish a sustainable and permanent training program for key stakeholders, in partnership with communities, a variety of professionals from the social and economic sector and specialized local and national institutions. Work with local and federal resources, and focus on training priority target groups such as: municipal departments and emergency management

authorities; fire and rescue services; medical emergency teams and law enforcement personnel; economic development specialists; building code inspectors; subject matter experts; the private sector; community leaders; and educators. There are many opportunities to conduct or participate in training. Listed below are some of the major avenues to allow the state and communities to expand its knowledge and expertise in disaster recovery and resilience.

- Develop training using Homeland Security grants/funds
- National Incident Management System (NIMS)/Incident Command System (ICS) training protocols
- Independent Study Program through the FEMA Emergency Management Institute (EMI)
- Webinars or other web based training activities
- Workshops or training in conjunction with state or Regional Professional Development Centers (RPDCs).

Promote Planning

Hazard Mitigation

In compliance with federal planning laws, regulations and guidance, communities must prepare or adopt hazard mitigation plans, which are approved by FEMA in order to be eligible to receive certain federal funding for mitigation and other non-emergency disaster projects. Hazard mitigation plans are documents that aim to identify, assess and reduce the long-term risk to life and property from a range of natural hazards. They must be updated every five years, and can be stand-alone documents or integrated in a community's local comprehensive plan. Counties can prepare hazard mitigation plans on their own, with other jurisdictions within the county or with other counties as part of a multi-county region. In West Virginia, these plans are prepared at the regional level by RPDCs (with the exception of Jefferson County).

Pre-Disaster Planning

The ability of a community to successfully manage the recovery process begins with its efforts in pre-disaster preparedness, mitigation, and recovery capacity building. These efforts result in resilient communities with an improved ability to withstand, respond to, and recover from disasters. Pre-disaster recovery planning promotes a process in which the whole community fully engages with and considers the needs and resources of all its members. The community will provide leadership in developing recovery priorities and activities that are realistic, well planned, and clearly communicated. Effective pre-disaster planning is an important process that allows a comprehensive and integrated understanding of community objectives. Pre-disaster planning also connects community plans to guide post-disaster decisions and investments. The SRO should work with WVDHSEM and other key stakeholders to prepare a state level pre-disaster recovery plans (PDRP) while also a concentrated effort to support and encourage the development of local and regional PDRPs.

Comprehensive Planning

Resiliency concepts can be incorporated into comprehensive plans, either during full updates or by amendment. Also known as master plans or general plans, comprehensive plans lay out the long-term vision and values for a community, and outline goals and strategies for future development and growth. Comprehensive plans address a variety of issues ranging from land use

and development, housing, economic development, transportation and infrastructure, and protection of existing natural areas.

Education and Engagement
Resiliency is a topic that will require an ongoing sharing of best practices and infusion of new knowledge as markets, climate, hazards and solutions continue to evolve. The state should be committed to making the SRO a central location for posting information and engaging community feedback. More extensive education programs should also be developed in partnership with learning institutions and professional associations that have the capacity and infrastructure to create platforms for training and knowledge exchange. Lessons learned, case studies, and best practice examples should be gathered, documented and shared through training, presentations, and online forums to expand the understanding of resiliency and the application of solutions in planning, policy, and practice. An ongoing dialog with the public through forums, online tools, and advisory panels should also be utilized to gather on-the-ground experiences and the real-life issues facing residents that will be continuously factored into resiliency strategies and solutions education.

Ensure Investments Decrease Vulnerabilities
The SRO should consult all community development, housing, environmental, and infrastructure programs when applicable to assess investment plans based on current and future risks. Additionally, the SRO should provide guidance to pertinent state departments or entities regarding investing state resources in more resilient ways. The goal of this action is to help state agencies understand where risks overlap with planned investments. At a minimum, the SRO should closely examine plans for transportation, stormwater management, economic development, housing and community development, conservation and land use, water infrastructure, health and social services, and natural and cultural resources. This includes ensuring that post-disaster investments do not simply rebuild to the same pre-disaster standards when opportunities for enhanced resilience exist.

Develop a Resilience Data Resource
All of a state's concurrent resilience planning efforts should use the most complete and up-to-date data available. To facilitate this goal, the SRO should develop an online system that organizes all resilience data in one place and provides an interface that clearly explains what each data layer is showing. A centralized, user-friendly resilience database can serve to familiarize planners with key resilience metrics, encourage the use of data in planning processes, and ensure that all data resources are considered. This database should serve as the primary science-based tool for evaluating existing and planned investments, alongside the state's risk assessment.

Assess At-Risk Assets
The SRO should lead a review of at-risk assets. Assessments should compare, at a minimum, the cost of protecting the asset, the cost of relocating the asset, and the impact of losing or abandoning the asset. This review should be done in collaboration with relevant state agencies and local governments. Eventually, this process should include everything from privately owned properties such as businesses, churches, farmland, and residential communities, to state and city

owned facilities such as roads and bridges, police and fire stations, parks, libraries, schools, and government office buildings.

Develop Technical Assistance Tools and Capabilities

Capacity & Expertise

The state should build resilience expertise and capacity at the local level by providing technical assistance and relevant tools to communities. These should be focused on a few widely applicable economic development issues, such as land use planning, transportation planning, codes and permitting, or facility siting. Potential technical assistance could include trainings for local government staff or a circuit rider program where state staff provide on-going, direct assistance to local officials. Although the goal should be to deliver as much assistance as possible, time and staff limitations demand a process that prioritizes communities with low resilience planning capacity and high hazard risk. The state should consider developing and delivering technical assistance in partnership with RPDC's, regional universities and non-profits to increase efficiency and take advantage of existing in-state expertise.

Tools

In addition to policies, the SRO should provide access to best practice resources, such as: model ordinances, planning tools and guidance documents and resilience and recovery checklists for communities to emulate and implement. The EPA's Flood Resilience Checklist, which helps communities prepare for floods, is an example of the types of tools that could be provided. The state should develop a centralized online system to provide easy access to this information, a resource that could be especially useful to small urban or rural communities that lack internal planning staff and adequate connections to external expertise. The online system could also list opportunities to apply for technical assistance support from the state, federal government, foundations, and other resources. Non-profit organizations and local institutions can be valuable partners in producing these guides and toolkits.

Identify or Establish Funding Opportunities

Grant Opportunities

The SRO should be the clearinghouse for all funding opportunities to promote a more resilient state, gathering and disseminating information from federal and non-profit funding source, and then communicating with RPDC's and local governments regarding any opportunities. Technical assistance should also be provided to assist with the grant application development, project implementation and closeout process. The SRO should also work with state departments to incorporate resiliency into the criteria for grants, incentives and other funding opportunities.

Establish a State Resilience Fund

The state should develop a permanent fund to invest in resiliency projects, meet recovery needs in the aftermath of disasters, and assist communities with implementing local resilience measures. A resilience fund can provide flexible and immediate resources. For example, these funds could pay directly for resilience improvements to state infrastructure, serve as a match for available federal and local resources, provide grants to communities, or function as a state

revolving loan fund. In the aftermath of a disaster, these funds could be made available more quickly than federal funds, which often take an extended amount of time to deploy.

There are numerous ways states can build a fund, including committing a percentage of existing state infrastructure, economic development, or community development budgets to resilience projects in those areas. The state can also create special taxes or fees dedicated to resilience, such as real estate transfer fees and stormwater utility fees.

Promote FEMA's Community Rating System
The Community Rating System (CRS) is a voluntary incentive program that encourages communities to undertake floodplain management activities that go above and beyond the minimum National Flood Insurance Program requirements. Activities are organized under four main categories (Public Information, Mapping and Regulation, Flood Damage Reduction, and Warning and Response), and provide participating communities with discounts on flood insurance premium rates ranging from 5%-45%. Beyond the reduced insurance premiums for all residents in a CSR-designated community, participating in the CRS program can provide a number of other benefits, including improved public safety, enhanced environmental protection, reduced damage to property, free technical assistance for designing and implementing certain activities, and a better informed and prepared public.

Examples of SRO Activities (Steady State and Disaster Recovery)
Steady State Activities
1. Overseeing and facilitating implementation of the FEMA-4273-DR-WV Recovery Support Strategy (RSS). The RSS includes a number of issues, goals, objectives, strategies, and actions across four Recovery Support Functions (RSFs), which the state is encouraged to implement with the support of federal partners in order to advance statewide recovery and resilience.

2. Working with local, state and federal partners to secure funds for disaster recovery and economic resilience and diversification.
   a. Manage and administer federal funds and initiatives awarded for disaster recovery and economic resilience and diversification.
   b. Develop program guidelines, forms, and technical assistance materials for available funds in accordance with federal regulations and guidelines.
   c. Provide technical assistance to applicants as needed.
   d. Serve as a funding identification hub by researching and staying current with federal and other funding opportunities for community and economic development, with special focus on resilience and diversification.
   e. Work with Regional Planning and Development Councils (RPDCs) and municipalities to establish an information network to distribute funding opportunities in a timely manner and assist with technical assistance as needed.

3. Establish and facilitate regular communication between federal, state, local and private sector agencies and organizations to further disaster recovery and economic resilience and diversification.
   a. Identify relevant federal, state, local, private, and nonprofit stakeholders in community resiliency and establish ongoing and regular structure of meetings, list serve, and other regular forms of communication.
   b. See "DoC SRO Mission and Goals 2-14-17" document for a list of identified relevant stakeholders.

4. Coordinate, integrate, and expand planning efforts in the state for hazard mitigation, long-term disaster recovery, and economic diversification.
   a. Develop a database of counties and communities with existing comprehensive plans.
   b. Work with RPDCs to incorporate economic resiliency into annual Comprehensive Economic Development Strategies.
   c. Work with RPDCs to assess the status and implementation of hazard mitigation plans.
   d. Work with WVU Land Use Law Clinic to strengthen and expand comprehensive planning efforts in counties and communities.
   e. Work with relevant state agencies to update the statewide flood prevention plan.
   f. Work with relevant state and local agencies to integrate hazard mitigation into existing plans using tools such as safe growth audits.
   g. Integrate Land Use Master Plans developed by the Office of Coalfield Community Development into existing economic and community development planning.
   h. Integrate fossil energy, renewable energy, and energy efficiency planning conducted by the Division of Energy into existing economic and community development planning.

5. Strengthen local capacity and initiatives that address hazard mitigation, long-term disaster recovery, and economic diversification.
   a. Strengthen and expand local disaster preparedness, prevention, and response programs such as StormReady, Citizen Corps, and Community Emergency Response Teams.
   b. Strengthen and expand the Community Rating System (CRS) in the state.
   c. Work with RPDCs and municipalities to employ Local Disaster Recovery Managers (LDRMs), circuit riders or VISTAs to assist local governments.
   d. Provide training opportunities to all stakeholders to enhance resiliency capabilities.
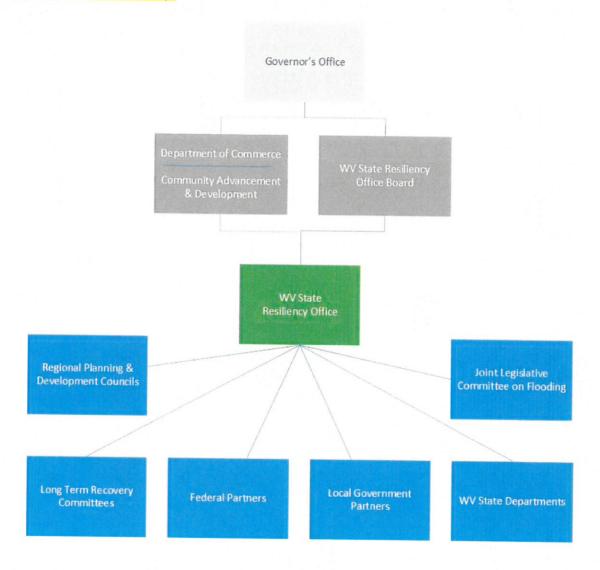
Disaster Recovery Activities
1. Coordinate long-term disaster recovery efforts in response to disasters as they occur.
   a. Organize and implement long-term planning and recovery activities in response to specific disasters.
   b. Organize and implement long-term planning for economic diversification of areas and regions dependent upon single-industry economies.

2. As needed, assign staff to represent the SRO and assist FEMA Interagency Recovery Coordination (IRC) staff at the FEMA West Virginia Recovery Office (WVRO).
   a. It is critical for the state to participate in development of the Mission Scoping Assessment (MSA) and Recovery Support Strategy (RSS), as these documents outline recovery and resilience opportunities for the state, as well as potential technical and direct assistance from the federal government. Participation from the SRO in these processes will ensure relevant and effective actions for West Virginia.

3. Administer the HUD Community Development Block Grant-Disaster Recovery (CDBG-DR) funds to assist recovery efforts in impacted areas.
   a. Identify unmet needs from the disaster and use CDBG-DR funds to address issues in the impacted areas.

3. Organizational Chart

The organizational chart below is an example of the position of the SRO within the structure of West Virginia state government. It will ultimately be up to the Department of Commerce and the Community Advancement and Development division to determine where the SRO fits in relation to other state agencies and divisions. Our recommendation is for the office to be connected to all partners that have a stake in recovery and resiliency. No one state agency should report directly to the SRO, but the office should be a consulting party anytime that a decision is being made that has a component of resiliency. This would include state investments, long-term planning and anything that can be tied to increasing resiliency. The SRO must change the mindset of decision makers in the state to ensure that resiliency is a key component in the process. That is why it is critical for the SRO to immediately gain traction and show value in the resources it can provide across all sectors of society.

Governor's Office

Department of Commerce
Community Advancement & Development

WV State Resiliency Office Board

WV State Resiliency Office

Regional Planning & Development Councils

Joint Legislative Committee on Flooding

Long Term Recovery Committees

Federal Partners

Local Government Partners

WV State Departments

4.   Coordination with Partners

The success of the SRO depends entirely upon open and effective communication and collaboration with all partners – local, state, and federal government agencies, local organizations, non-profits, NGOs, volunteer, and others. It is critical to not only follow the direct line of authority indicated in the organizational chart in the previous section, but to maintain working relationships with state and federal partners. The West Virginia National Guard (WVNG), West Virginia Department of Homeland Security and Emergency Management (WVDHSEM), and the FEMA West Virginia Recovery Office (WVRO) have been involved in recovery efforts since the flooding events of 2016, and continue to work on projects and efforts that align with the purpose and scope of the SRO. These, and other partners identified in the SRO legislation should be viewed as consistent partners who can offer advisory and practical support.

The SRO will serve as a central hub for coordinating resilience efforts across state agencies, and the distribution of information re: project and funding opportunities to local governments and organizations. At its best, the SRO will coordinate recovery and resilience efforts, provide transparency, maintain a sense of urgency at the state level, advocate for recovery funding, and build partnerships across multi-faceted public and private organizations.

Maintaining an open, collaborative dialogue with all partners allows for a number of benefits:
1. All partners are aware of recovery and resilience activities occurring throughout the state, and can identify areas for collaboration and support;
2. Potential conflicts and duplication of effort are identified and corrected early;
3. Communication and participation from organizations such as Regional Planning and Development Councils (RPDCs), Long Term Recovery Committees (LTRCs) and volunteer groups provides awareness of successes, challenges, and needs within local communities;
4. All partners can discuss potential funding opportunities and identify programs in which they may combine efforts to meet needs of multiple communities;
5. Similarly, all partners can work together to develop a series of actions that communities can take to increase their chances of receiving resilience funding; and
6. All partners can work together to evaluate the economic benefits, cultural or historical significances, and social impacts of at-risk assets and consider all options to protect them from future hazards.

Recommendation:
1. The SRO should work with existing processes to develop and maintain communication with all partners.
2. Schedule regular, recurring meetings or conference calls that work for all partners. This will allow the SRO and partners to provide updates and ask questions.
3. An annual summit, or other venue in which resiliency training and planning activities can occur, would benefit all parties. Existing annual summits or workshops should be leveraged.
4. The development of working groups or other councils (some which may have been designated through the Resiliency Framework process) may be a consideration as special circumstances or opportunities present themselves.
5. Consider creating an SRO website or SharePoint site that all partners can access in order to share project updates, funding opportunities, and resiliency planning resources.

5. Specific Factors for West Virginia Resiliency

Communities throughout West Virginia face many of the same recovery and resiliency challenges. The SRO can serve not only as the central point of contact for information about addressing these challenges, but can be the driving force behind the initiatives to address each one. The WVRO IRC Team identified cross-cutting issues, each of which is listed below, along with recommendation on how the SRO may lead or guide initiatives to address them. Implementation for almost all of the proposed solutions will require coordination across the entire state.

Communication and Coordination
There is a need for a centralized coordinating body, which would serve to assist the RPDCs, LTRCs, and other municipal and local organizations. Municipal, regional and local organizations want to sustain their unique communities, and although they have access to some information (funding opportunities, programs, and resources), there are many gaps. They would benefit from a coordinating body which can obtain and disseminate comprehensive information and opportunities related to long term recovery. Also, they must ensure regional and state-wide meetings are regularly scheduled and supported administratively. Communications are a big issue. There should be a platform for disseminating information to local communities to ensure the whole state is equipped with the tools needed to make efficient and effective decisions.

Recommendations:
1. The SRO should serve as the main coordinating body for information-sharing and communicating state goals, plans and programs to local and regional partners. Embedding SRO staff with RPDCs may be considered to provide direct technical and coordination assistance.
2. Coordinate with regional and local organizations, holding regular meetings/conference calls, in order to maintain and grow relationships. The communication should increase during the disaster recovery process to ensure that there is clear communication between the state and local representatives.

Capacity
Municipal, regional and local organizations all reported a lack of capacity, both in personnel and finances. As a result of limited staffing, the ability to implement current program activities, and search for new funding and projects, is greatly hindered. It is also challenging to find sufficient funding to support implementation. Needs include a reliable, continued funding source to support current staff and future needs.

Recommendations:
1. The SRO should work to enhance statewide resiliency and recovery preparedness by encouraging recruitment and retention of qualified personnel. The SRO can support this effort by providing or coordinating training opportunities through federal and state partners, to include: long-term recovery planning and implementation, community resiliency and sustainability.
2. Provide technical support to local organizations throughout the grant process: researching, writing, management, and assessment/reporting.
3. Use CDBG-DR funds or other sources to employ LDRMs in disaster impacted areas.

Community Engagement

West Virginia communities want to be engaged in the recovery process and work on resiliency efforts from the bottom-up. Some believe there is too much reliance on the state and federal programs, and want communities to "own" their recovery. Municipal and local organizations would like assistance in organizing and fostering community engagement.

Recommendations:
1. The SRO can coordinate regular regional meetings to organize local community-wide recovery priorities, then integrate these priorities into state-wide initiatives, leveraging existing relationships and programs with federal and other partners.
2. Engage local citizens and state partners through the use of social media. Use of websites, Facebook and Twitter are often easily accessible and widely used.

Resilient Housing

The need for more affordable and resilient housing was expressed by all communities. This need existed before the flood; however, the number of individuals and families displaced by the flood has made the need for available housing a priority. Additionally, blight is a challenge in many communities. Local efforts to demolish vacant and dilapidated structures are often delayed due to legal waiting periods when owners cannot be located.

Recommendations:
1. The SRO should lead efforts to educate homeowners on preparedness options and mitigation strategies while rebuilding to ensure resiliency.
2. The SRO can work with state government to develop incentives to encourage mitigation strategies while rebuilding.
3. To address blight, the SRO should lead the effort to identify and abate all destroyed, vacant, and derelict structures within the impacted communities and rural areas. Other suggestions include: encouraging private redevelopment of blighted properties and potential use of condemned structures for fire department training exercises.

Broadband

Lack of broadband is a major issue throughout the state. Unreliable and slow internet access affects businesses, retention of talent and potential businesses coming to West Virginia, individual access to information and internet-dependent employment (home and otherwise), and the ability to study and work from home.

Recommendation: The formation of the Governor's West Virginia Broadband Enhancement Council (WVBEC) in 2016 illustrates the state's commitment to increase broadband access and set goals for expanding broadband networks in the impacted rural areas. The SRO should serve as a liaison and hub for information-sharing to local communities and organizations so that they can explore programs which may help get their communities connected.

GIS Data

Geographic Information System (GIS) data and capabilities are limited at the regional and local level. There are various small sections of reliable utility data, and the West Virginia Infrastructure and Jobs Development Council has water and sewer systems mapped. The data available, however, is often not comprehensive. There is a need for a centralized, comprehensive GIS system, which can be accessed by all state, regional and local agencies and organizations. Access to such a system would be instrumental in planning efforts, grant applications, and programmatic reporting.

Recommendations:
1. The SRO can coordinate GIS requests with the West Virginia Office of GIS Coordination (http://www.wvgs.wvnet.edu/www/giscoord/index.php) and the West Virginia Geological and Economic Survey (http://www.wvgs.wvnet.edu/www/giscoord/index.php) to see if needed information and mapping already exists.
2. The SRO can serve as a central hub for information-sharing on programs available to state and local organizations that may help fill the GIS capability gap.

Economic Development

There is a strong desire to expand available economic development assets throughout the state. Regional and local organizations want to use and enhance what is available to them: rivers, adventure tourism, theaters and "Main Street" initiatives. Communities want to see their storefronts filled and streets lined with residents and tourists alike; in order to attract businesses and tourists, they need help rebuilding and developing those attractions.

Recommendation:
In coordination with EDA and other partners, the SRO should lead oversight of economic development initiatives in West Virginia through the lens of resiliency. Many of the suggestions below are discussed in greater detail in the RSS:
1. Support and encourage municipality efforts to explore and implement economic diversification.
2. Support revitalization of downtown commercial districts to promote business development and economic diversification.
3. Coordinate town hall meetings and encourage community engagement in economic planning and development meetings.
4. Identify opportunities to develop new and improve existing tourism attractions, destinations and businesses.
5. Expand and publicize the state trails plan (walking/biking/hiking/ATV).
6. Expand and publicize historic and cultural sites.
7. Develop mechanisms that allow the state to better encourage development of new entrepreneurs and to develop new skilled workers for the tourism sector.

Floodplain Restrictions

Development in the floodplain and floodway has drastically increased flood risk in West Virginia and made the population vulnerable to catastrophic losses. Current and future development in these areas is unavoidable, but steps can be taken to mitigate against risk and make communities more resilient. The SRO should work closely with West Virginia DHSEM to promote mitigation measures and other programs to reduce the overall risk throughout the entire state, and specifically in socially vulnerable areas.

Recommendations:
1. Strengthen and expand the Community Rating System (CRS) in the state through collaboration with West Virginia DHSEM.
2. Recommend adoption of floodplain ordinances in communities where they are not present. Work with municipalities with existing ordinances to ensure that the code is up to date and being enforced.
3. Promote the use of FEMA grant programs for mitigation of vulnerable assets and populations.
4. Work with the WVU Land Use Clinic to promote the adoption of ordinances to increase resiliency.

7. Monitoring and Measuring Progress

The SRO should identify a set of performance metrics that it can use to independently evaluate the success of state-funded projects. For example, "losses avoided" estimates are perhaps the most effective way to demonstrate how resilience strategies minimize the loss of life and property in different natural disaster scenarios. FEMA's Hazus-MH is an example of a model that produces losses avoided estimates. The Social Vulnerability Index is another metric that has been used nationwide to measure the exposure of different populations to natural disasters based on capacity for preparedness and recovery. The metric can be applied from the regional level all the way down to individual census tracts.

Beyond providing useful internal feedback, identifying, applying, and publicizing a standard set of performance metrics to state funded projects can help build a strong case for resilience throughout the state. Baselines are needed to better assess progress and to set goals in order to allocate resources. A mechanism is needed to help understand investments made to improve resilience.

Top-down tools are often intended for use by an oversight body or require external expertise to help a community measure different aspects of their resilience to inform decision making. Bottom-up tools are locally based and locally driven indexes and models and are designed to help communities predict how well they would function following a disaster. The overarching target categories for developing community-based resilience measures typically revolve around infrastructure, social factors, buildings and structures and vulnerable populations. Every tool should be:

- Open, transparent, well documented and as simple as possible;
- Can be replicated;
- Can address multiple hazards;
- Are representative of a state's geographical extent, physical characteristics, and diversity; and
- Are adaptable and scalable to different community sizes, compositions, and circumstances.

Hazard and disaster planning are different from identifying measures. Planning includes measures and indicators, and involves assessing the physical infrastructure and land used for zoning, but does not necessarily take into account the adaptive capacity, the social networks, or the perceptions of the community with respect to risk. Planning is a tool that can be used to help achieve resilience, but resilience is a much broader framework. Similarly, mitigation is a tool that can be used to achieve resilience, but does not take into account different elements within a community that are important in achieving resilience. Leadership is an element not accounted for under planning or mitigation yet is an integral part of why some communities are more resilient than others.

A full rollout of the SRO will involve many simultaneous moving parts, and consistent communication is a crucial part of this process. The SRO should assign staff to conduct regular outreach and check-ins with state agencies undertaking resilience type evaluations, partner

institutions outside of state government, and local governments implementing projects funded through a state resilience fund. This is critical not only to monitor and measure progress on specific projects, but also to receive feedback on the state's performance in the coordinating role and to evaluate the effectiveness of different incentives and strategies.

The SRO should eventually require that any project—local or state level—applying for state funding propose a set of performance metrics that will be used to determine success. These projects should also be required to submit quarterly progress report back to the office and incorporate any data gathered into the state's central resilience database.

8. Resources and Funding to Support Resiliency

Following a presidentially declared major disaster, a plethora of resources become available to help residents and communities recover. The goal of the SRO should be to help the state mitigate against potential hazards and incorporate resiliency into all facets of society. This can range from education and promotion of flood-proofing homes, to implementing major infrastructure projects to address vulnerable assets. The SRO must be the catalyst to make resiliency an engrained piece of current and future decision making. This will involve close guidance and recommendations to all stakeholders.

This section addresses resources and funding sources that may be leveraged by state and local entities to incorporate resiliency measures. There will undoubtedly be additional funding opportunities available, but this section addresses the most common and consistent sources that other states have identified and continually utilize. The SRO should be the clearinghouse for all funding opportunities related to resiliency, and these opportunities should be conveyed to RPDC's, local governments and any other pertinent partners.

Department of Homeland Security (DHS)
Homeland Security Grant Program
The purpose of the Homeland Security Grant Program (HSGP) is to support state, local and tribal efforts to prevent terrorism and other catastrophic events and to prepare the Nation for the threats and hazards that pose the greatest risk to the security of the United States. The HSGP plays an important role in the implementation of the National Preparedness System by supporting the building, sustainment, and delivery of core capabilities essential to achieving the National Preparedness Goal (the Goal) of a secure and resilient Nation. The HSGP supports efforts to build and sustain core capabilities across the five mission areas of Prevention, Protection, Mitigation, Response, and Recovery based on allowable costs

Federal Emergency Management Agency (FEMA)
- Preparedness (Non-Disaster) Grants
  FEMA provides state and local governments with preparedness program funding in the form of Preparedness (non-disaster) Grants to enhance the capacity of state and local emergency responders to prevent, respond to, and recover from a weapons of mass destruction terrorism incident involving chemical, biological, radiological, nuclear and other explosive devices, and cyber-attacks.

- Hazard Mitigation Grant Program (HMGP)
  Provides funds to implement hazard mitigation measures following a Presidentially declared disaster. Hazard mitigation actions are any action taken to reduce or eliminate the long term risks to people and property from natural hazards. HMGP funding is made available, when authorized, for hazard mitigation planning and projects. HMGP funding is made available to the State based on the estimated total Federal assistance FEMA provides for disaster recovery under the Presidential declaration. Grants are designed to assist local communities, States, Federally recognized Tribes and Territories with

implementing mitigation measures during the reconstruction process. The goal is to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on Federal funding in future disasters.

- Pre-Disaster Mitigation (PDM)
  Program provides funds to States, territories, Indian Tribal governments and communities for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. Federal funding for this nationally competitive grant program is generally an annual allocation (subject to Congressional appropriation).

- Flood Mitigation Assistance (FMA)
  Provides federal funding to assist states and communities to fund cost effective measures to reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the National Flood Insurance Program (NFIP).

Economic Development Authority (EDA)

- Planning and Local Technical Assistance Programs
  Assists in developing economic development plans and studies designed to build capacity and guide the economic prosperity and resiliency of a region. The Planning program helps support investments designed to guide the eventual creation and retention of high-quality jobs, particularly for the unemployed and underemployed in the Nation's most economically distressed regions. The Local Technical Assistance program strengthens the capacity of organizations to undertake and promote effective economic development programs through projects such as feasibility studies and impact analyses.

- Public Works and Economic Adjustment Assistance
  Designed to leverage existing regional assets and support the implementation of economic development strategies that creatively advance economic prosperity in distressed communities. EDA gives particular consideration to applications for communities with low income and high unemployment, and where severe weather has impacted businesses. Projects must include a focus on encouraging job growth.

United State Department of Agriculture (USDA)

- Agricultural Management Assistance Program
  Helps agricultural producers use conservation to manage risk and address natural resource issues through natural resources conservation.

- Conservation Innovation Grants
  Offer funding opportunities at the state level to stimulate the development and adoption of innovative conservation approaches and technologies that leverage federal investment in environmental enhancement and protection.

- The Conservation Stewardship Program
  Helps agricultural producers maintain and improve their existing conservation systems and adopt additional conservation activities to address priority resources concerns. Participants earn CSP payments for conservation performance—the higher the performance, the higher the payment.

- Rural Economic Development Loan and Grant program
  Provides funding for rural projects through local utility organizations. USDA provides zero-interest loans to local utilities which they, in turn, pass through to local businesses (ultimate recipients) for projects that will create and retain employment in rural areas. The ultimate recipients repay the lending utility directly. The utility is responsible for repayment to USDA.

- The Environmental Quality Incentives Program
  Provides financial and technical assistance to agricultural producers in order to address natural resource concerns and deliver environmental benefits, such as improved water and air quality, conserved ground and surface water, reduced soil erosion and sedimentation, or improved or created wildlife habitat.

- Rural Energy for America Program Energy Audit & Renewable Energy Development Assistance Grants
  Grantees assist rural small businesses and agricultural producers by conducting and promoting energy audits, and providing renewable energy development assistance (REDA).

Housing & Urban Development (HUD)

- Community Development Block Grant (CDBG)
  Provides federal funds for community and economic development projects throughout West Virginia. The program supports job creation and retention efforts, local government efforts to provide affordable infrastructure systems and community efforts to improve the quality of life for low- to moderate-income citizens. The program supports the development of viable communities by assisting in the provision of a suitable living environment and expanding economic opportunity, principally for those of low and moderate income (80 percent and below median household income).

- Community Development Block Grant –Disaster Recovery (CDBG-DR)
  HUD provides flexible grants to help cities, counties, and States recover from presidentially declared disasters, especially in low-income areas, subject to availability of supplemental appropriations. In response to presidentially declared disasters, Congress may appropriate additional funding for the Community Development Block Grant (CDBG) Program as Disaster Recovery grants to rebuild the affected areas and provide crucial seed money to start the recovery process. Since CDBG Disaster Recovery (CDBG-DR) assistance may fund a broad range of recovery activities, HUD can help communities and neighborhoods that otherwise might not recover due to limited resources.

United States Army Corp of Engineers (USACE)

The USACE Flood Risk Management Program (FRMP) works across the agency to focus the policies, programs and expertise of USACE toward reducing overall flood risk. This includes the appropriate use and resiliency of structures such as levees and floodwalls, as well as promoting alternatives when other approaches (e.g., land acquisition, flood proofing, etc.) reduce the risk of loss of life, reduce long-term economic damages to the public and private sector, and improve the natural environment.

Environmental Protection Agency (EPA)

- Building Blocks for Sustainable Communities

  One- to two-day, targeted technical assistance to give communities tools to implement smart growth development approaches. Eligible applicants are tribal, county, and local governments, and nonprofit organizations that have the support of the local government on whose behalf they are applying.

- Cool & Connected

  Helps rural communities use broadband service to revitalize main streets and promote economic development. Any community representative can apply.

- Greening America's Communities

  Helps selected cities and towns envision and implement design strategies for more sustainable communities. In 2016, the program is being offered to cities that are participating in EPA's Making a Visible Difference in Communities initiative or the Strong Cities, Strong Communities initiative. Formerly called Greening America's Capitals.

- Healthy Places for Healthy People

  Helps communities create walkable, healthy, economically vibrant places by engaging with their health care facility partners such as community health centers (including Federally Qualified Health Centers), nonprofit hospitals, and other health care facilities. Eligible applicants include local government representatives, health care facilities, local health departments, nonprofit organizations, tribes, and others proposing to work in a neighborhood, town, or city anywhere in the United States.

- Local Foods, Local Places

  Helps communities develop and implement action plans that promote local foods and downtown revitalization. Representatives of communities anywhere in the United States are eligible to apply. This program builds on the Livable Communities in Appalachia Program, which offered technical assistance to help small towns and rural communities in Appalachia revitalize their traditional downtowns to boost the local economy and improve quality of life.

- Smart Growth Implementation Assistance

  Works with public-sector entities that want to incorporate smart growth techniques into their development. As of 2015, EPA's regional staff identifies and selects communities to

assist. Summaries and reports from past SGIA projects can be helpful to communities facing similar issues.

- Brownfields Grant
  Empowers states, communities, and other stakeholders to work together to prevent, assess, safely clean up, and sustainably reuse brownfields. A brownfield site is real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. EPA provides financial assistance to eligible applicants through four competitive grant programs: assessment grants, revolving loan fund grants, cleanup grants, and job training grants. Additionally, funding support is provided to state and tribal response programs through a separate mechanism.

Appalachian Regional Commission (ARC)
Provides federal grant funds for the support of economic and community development in West Virginia and 12 other states in the Appalachian Region. The goal of ARC is to create opportunities for self-sustaining economic development and improved quality of life. Projects approved for ARC assistance must support one of the four general goals:

1. Increase job opportunities and per capita income in Appalachia to reach parity with the nation.
2. Strengthen the capacity of the people of Appalachia to compete in the global economy.
3. Develop and improve Appalachia's infrastructure to make the Region economically competitive.
4. Build the Appalachian Development Highway System to reduce Appalachia's isolation.

Additional Funding Sources

Each county and community will have grants and resources that are not available to others due specific factors. Each potential applicant should check with local economic development organizations, RPD's, non-profit and philanthropic organizations for potential funding sources. FEMA also delivered a West Virginia Community Recovery Resource Guide that is a comprehensive document that details potential grant opportunities across all sectors.

The SRO should provide technical assistance related to resiliency functions for application development, implementation and closeout. The office should also look at the possibility of hiring Local Disaster Recovery Coordinators (LDRC's) or circuit riders that can assist with grant the process in specific areas or counties.

The SRO should also look at established a Resiliency Fund or similar source to provide funding to communities that make resiliency a priority. This can be done through future CDBG-DR allocations or the creation of a special fund.

State Resiliency Board

Meeting Minutes

Monday, October 16th 2017

A meeting of the State Resiliency Office Board was held at 9:00am on Monday, October 16th, 2017 at the West Virginia Advancement and Development Office in Charleston, West Virginia

The following board members were present:

- Director Jimmy Gianato, West Virginia Division of Homeland Security and Emergency Management
- Director Stephen McDaniel, West Virginia Division of Natural Resources
- Jeff Wood, Designee for General James Hoyer, West Virginia National Guard
- Norman Bailey, Chief of Staff West Virginia Department of Agriculture
- Director Brian Farkas, West Virginia State Conservation Agency
- Secretary Austin Caperton, West Virginia Department of Environmental Protection
- Director of Community Advancement and Development Mary Jo Thompson, Designee for Secretary Thrasher, Department of Commerce

The following council members were absent:

- Secretary Jeff Sandy, West Virginia Department of Military Affairs and Public Safety
- Secretary Thomas Smith, West Virginia Department of Transportation

Others present:

- **Deputy Director Russell Tarry, West Virginia Community Advancement and Development**
- **Jennifer Ferrell, West Virginia Community Advancement and Development**
- **Hannah Kessler, State Resiliency Office, West Virginia Community Advancement and Development**

The meeting was called to order by Director Mary Jo Thompson: Director Thompson welcomed the board and introduced her staff present.

Director Thompson spoke of the vision behind and the steps taken to revive House Bill 2935, which created the SRO Board, Office, and Legislative Committee on Flooding. She also spoke of the responsibility that comes from this legislative mandate to recovery this state and make it resilient.

Some action items mentioned were:

Creation of a special committee, with Brian Farkas WV Conservation Agency as head.

The reminder that this committee will report quarterly

A request for each agency to create point person for future needs and meetings

Director Thompson encouraged all members to continue collaboration between state agencies, as well as federal and private sectors. She said if we are looking to make long term changes in resiliency we all have to work together in order to do so. She is going to make amendment to HB 2935 to include West Virginia Department of Agriculture into the State Resiliency Board.

There will be a Recovery and Alliance Session on November 7th, as the Development office works with FEMA to push information out to agencies involved. This will be a large collaboration on many levels for the sake of disaster relief, recovery and resiliency.

Director Jimmy Gianato, West Virginia Division of Homeland Security and Emergency Management mentioned that this disaster brought in more financial support than anything he has ever seen. He also encouraged the group that one of their main functions is to collaborate on resource allocation to maximize these funds while not duplicating services.

Director Thompson agreed that West Virginia is on the map for recovery, and the county is looking at the way we spend this money.

Director Gianato then explained that the disaster of 2017 was isolated to 4 Counties in the northern part of the state. These included Wetzel, Marion, Harrison and Marshall. This flood was not to the extent of the 2016 flooding, but made sure to mention that when you are the one affected the extend on a state level doesn't matter as much to you. He also applauded private sector donors, and philanthropic groups for the building of (estimated) 1,000 homes since the June 2016 floods.

All members of the board were invited to attend the November 7th Recovery Session with more details being passed on as they arrive.

A motion was made and seconded and the SRO Board meeting was adjourned

Governor's Recovery & Alliance Session: Read-Ahead Document

Purpose of Summit

Thank you for agreeing to participate in the Governor's Recovery & Alliance Session. The purpose of the session is to develop an overarching, unified strategy that multiple state and federal agencies will use to guide recovery funding decisions related to the June 2016 flood event. This unified strategy should enable informed decision-making by senior leadership at all levels: local, state, and federal. As a first step in creating this unified strategy, this session will convene senior level state and federal officials to build consensus on strategic priorities, a framework for the strategy, and a path forward and timeframe for the strategy's development. While the session will focus on how to maximize almost $700 million in funding available following flooding in June 2016, this approach can be applied to future resource allocation and funding decisions that will enhance West Virginia's resilience while also spurring economic development and creating jobs.

Preparation

Each participant from the State Resiliency Board is encouraged to bring one individual to the session to serve as the **action officer** for their respective agency. This individual will stay for the entirety of the event and be available to represent their entity in subsequent meetings. The recovery session will set the priorities for the state, and the action officers will work to get the priorities and strategies implemented through collaborative efforts and the production of an action plan. This will require availability to work with other action officers until the project is complete.

Role of the Action Officer
The action officer will be the point of contact and participant for all subsequent meetings regarding the implementation of the priorities/strategies developed at the session. They should have a working knowledge of the agency's programs, resources and authorities and be available to meet and represent their respective agency through implementation.

*Federal partners will serve in an advisory/consulting role to action officers during implementation process.

Invitees

Agency	Name	Position
WV Governor's Office	Mike Hall	Chief of Staff
WV Department of Commerce	Woody Thrasher*	Cabinet Secretary
WV Department of Military Affairs	Jeff Sandy*	Cabinet Secretary
WVNG	James Hoyer*	Adjutant General
WV DHSEM	Jimmy Gianato*	Director
WV Conservation Agency	Brian Farkas*	Director
WV DEP	Austin Caperton*	Cabinet Secretary
WV DOT	Tom Smith*	Cabinet Secretary
WV DHHR	Bill Crouch*	Cabinet Secretary
WV DNR	Stephen McDaniel*	Director
WV Dept. of Agriculture	Kent Leonhardt*	Commissioner
VOAD	Jenny Gannaway	Director
US Senate	Shelley Moore Capito	Senator
US Senate	Joe Manchin	Senator
US House of Representatives	Alex Mooney	Representative
US House of Representatives	Evan Jenkins	Representative
US House of Representatives	David McKinley	Representative
HUD	Joe DeFelice	Region III Administrator
FEMA	MaryAnn Tierney	Region III Administrator
EDA	Linda Cruz-Carnall	Regional Director

*Member of the State Resiliency Office Board

Session Details and Agenda

Date: Tuesday, November 7, 2017

Time & Location

Session 1:	9 – 11 a.m. (Senior Officials & Action Officers) Governor's Cabinet and Conference Room
Session 2:	11 a.m. – 12:15 pm (Action Officers Only) Building 3, 8th Floor Conference Room

Agenda Item	Presenter	Duration	Time
Welcome & Introductions	Governor's Office	10 minutes	9 - 9:10 a.m.
Review Recovery Progress & Best Practices	FEMA (TBD)	15 minutes	9:10 - 9:25 a.n
Overview of Meeting Purpose & Objectives **Session #1:** Identify and Agree to State Recovery Priorities **Session #2:** Draft Action Plan for Achieving State Recovery Priorities	Facilitator	10 minutes	9:25 - 9:35 a.n
OBJECTIVE #1: Identify and Agree to State Recovery Priorities (Senior Officials) - Identify Recovery Priority Areas - Opportunities to Strategically Align Disaster Funds - Validate Discussion & Confirm Commitments *INTENDED OUTCOME: Agreed upon Priorities for 2016 Flood Funding and Framework for Next Steps to be executed by Action Officers*	Facilitator	85 minutes	9:35 – 11 a.m.
Break & Dismissal of Senior Officials		10 minutes	11 – 11:10 a.m.
OBJECTIVE #2: Draft Action Plan for Achieving State Recovery Priorities (Action Officers) - Discuss Role of Action Officers - Draft an Outline for an Action Plan Including Estimated Timelines and Next Meeting *INTENDED OUTCOME: Draft Action Plan Outline Based on Outcomes from Senior Officials Discussion*	Facilitator	50 minutes	11:10 a.m. – no
Closing Remarks/ Debrief	Facilitator	15 minutes	Noon – 12:15 p.

Proposed Funding Allocations (HMGP & CDBG-DR Only)

Housing

Funding Source	Amount
HMGP Acquisition/Demolition	$26,793,051.38
HMGP Mitigation/Reconstruction	$7,048,580.00
HMGP Elevation	$1,095,215.00
CDBG-DR Reconstruction/ Rehabilitation	$71,899,250.00
CDBG-DR Rental Assistance	$16,000,000.00
CDBG-DR Bridge Program	$2,080,000.00
CDBG-DR Multi-Family Rental Housing	$5,875,000.00
CDBG-DR Match for HMGP	$12,440,000.00
TOTAL	$143,231,096.38

Infrastructure

Funding Source	Amount
HMGP	$19,224,202.00
CDBG-DR	N/A
TOTAL	$19,224,202.00

Economic Development

Funding Source	Amount
HMGP	N/A
CDBG-DR Restore Riverview Project	$5,712,000.00
CDBG-DR Economic Development Program	$12,500,000.00
CDBG-DR Slum and Blight Removal	$5,875,000.00
TOTAL	$24,087,000.00

Disaster Planning/Preparedness

Funding Source	Amount
HMGP	$3,212,000.00
CDBG-DR	$10,000,000.00
TOTAL	$13,212,000.00

FEMA: Hazard Mitigation Grant Program (HMGP)

1. Program Overview
   a. FEMA describes hazard mitigation as "sustainable actions taken to reduce or eliminate long-term risk to people and property from future hazards".
   b. The Hazard Mitigation Grant Program, authorized under Section 404 of the Robert T. Stafford Act, provides states, tribes and local governments funding to implement actions designed to reduce future damages after a presidentially declared disaster.
   c. States, tribes or communities interested in pursuing funding for projects under HMGP must participate in and adopt a State, Tribal or Local Hazard Mitigation Plan. Mitigation Plans help communities identify risks and serves as a guide for decision-makers to develop potential mitigation measures to reduce or eliminate future damages.
   d. Applications for funding through the HMGP program are developed by local communities then submitted to West Virginia Department of Homeland Security and Emergency Management (WVDHSEM) for their review and prioritization. The WVDHSEM then submits project applications to FEMA for review and approval.
   e. Roles and Responsibilities:

Authority	Role and Responsibility
Local Jurisdiction	Develops project applications on behalf of the community, individuals and businesses
State or Tribal Governments	Establishes the priorities for mitigation funding. Reviews and prioritizes application submitted and selects those applications that will be submitted to FEMA for consideration.
FEMA	Conducts a final eligibility review to ensure that all applications and proposed projects comply with federal regulations. Provides approval and funding to states for approved projects.

Individuals and businesses cannot directly apply for funding through the HMGP program but can work with their designated community official to apply.

   f. Mitigation benefits include:
      i. Creating safer communities by reducing loss of life and property,
      ii. Enabling individuals and communities to recover more rapidly from disasters, and
      iii. Lessening the financial impact of disaster recovery.

According to a study completed by the Multihazard Mitigation Council, for every $1 spent on mitigation projects, an average of $4 is saved in future recovery spending.

2. Current Status

   a. As a result of the June 2016 flooding, $69 million ($52 million federal share and an additional $17 million state share) has been made available for mitigation projects through the HMGP program.

   b. As of October 3, 2017, 86 projects have been submitted to WVDHSEM estimating a total of $60.5 million to be spent.

   c. Sixty-four of the 86 projects submitted to WVDHSEM are located within counties that have been designated as disaster areas under the June 2016 Presidential Disaster Declaration.

3. Current Project Breakdown

Project Type	# of Applications	% of Overall Grant	Cost Per Project Type
Acquisitions	44	44	$26,793,051.38
Reconstruction	12	12	$7,048,580.00
Elevations	3	2	$1,095,215.00
Infrastructure Improvements	7	32	$19,224,202.00
Generators	17	5	$3,219,901.53
Studies/Planning Projects	3	5	$3,212,000.00
TOTAL	86	100%	$60,592,949.91

4. Upcoming Deadlines

   a. Applicant (local government) deadline for submission is November 3, 2017.

   b. State deadline to submit to FEMA is December 22, 2017.

   c. An extension to the December 22, 2017 application deadline could be requested by WVDHSEM to extend the period of availability to March 23, 2018.

HUD: Community Development Block Grant-Disaster Recovery Program

1. Program Overview
   a. 12 counties eligible for assistance.
   b. 80% of the total grant amount must benefit the Most Impacted and Distressed (MID) areas determined by HUD to be Kanawha, Greenbrier, Clay and Nicholas counties.
   c. 70% of the total funds must benefit low to moderate income (LMI) persons.

2. Current Status
   a. Total of $149 million available for disaster recovery projects.
   b. The Grant Agreement was executed on September 18, 2017.
   c. Initial appropriation of $104 million has been approved by HUD. $45 million allocation is going through public review process and will be submitted to HUD.
   d. Public outreach and applicant intake began on August 1, 2017.
   e. The program has 2 static service centers: Charleston and White Sulphur Springs. Mobile intakes are performed in affected cities multiple times per week.
   f. Approximately 1,100 applicants have been screened for the housing program, with over 700 conditionally approved.
   g. Construction contractors competitively procured in June 2017 and placed under contract in July 2017.
   h. The State is currently performing a Tier 1 review to evaluate and analyze environmental impacts related to the proposed activities. This review is expected to be complete and approved by HUD in late November 2017.
   i. Construction activities are expected to begin in December 2017.

3. Current Project Breakdown

Project Description	Traunch 1	Traunch 2	Traunch 3	Tota
RISE WV Housing Restoration Program	$64,378,950		$7,520,300	$71,899
RISE WV Rental Assistance Program	$16,000,000			$16,000
HMGP Match	$12,440,000			$12,440,
Bridge Home Program	$2,080,000			$2,080,(
Restore Riverview Project	$2,500,000	$3,212,000		$5,712,(
RISE WV Slum and Blight Removal Program			$5,875,000	$5,875,(
RISE WV Multifamily Rental Housing Program			$5,875,000	$5,875,0
RISE WV Economic Development Program			$12,500,000	$12,500,(
Planning	$1,667,050		$8,332,950	$10,000,(
State Administration	$5,214,000		$2,279,750	$7,493,7
TOTAL	$104,280,000	$3,212,000	$42,383,000	$149,875,

4. Upcoming Deadlines
   a. Applicant (individual homeowner) deadline for the "Housing Restoration Program" and the "Rental Assistance Program" is November 30, 2017.
   b. Substantial amendment to the action plan for $45 million is due November 12, 2017.

FEMA Public Assistance

1. Program Overview

   PA Reimbursement Program for Infrastructure allows for the return of 75% federal share cost to eligible applicants impacted.

2. Current Status

   a. 18 counties declared for Public Assistance with 133 requests received.
   b. 982 projects estimated at $416 million.
   c. $107 million obligated to date (federal share).
   d. 742 total properties to be demolished through Private Property Debris Removal (PPDR) program.
   e. 25 schools impacted with 5 considered substantially damaged.

3. Current Project Breakdown

Project	# of Projects	Cost Per Project Type (Federal Share)
WV Division of Highways	583	$ 33,138,585
WVNG	10	$ 2,474,757
SBA (Schools)	10	$ 178,342,354
WVDHSEM	31	$ 5,827,976
DEP	2	$ 787,500
Municipalities	279	$ 31,481,806
County School Boards	55	$ 33,018,413
PPDR	742	$ 4,902,085
Management Costs		$10,000,000
TOTAL		$299,973,476
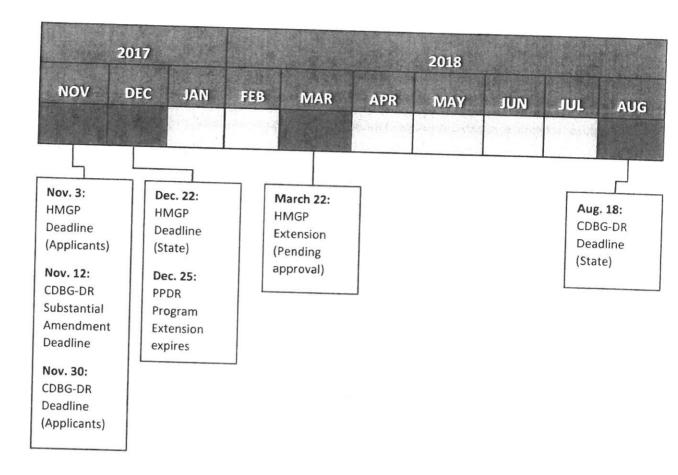
4. Upcoming Deadlines
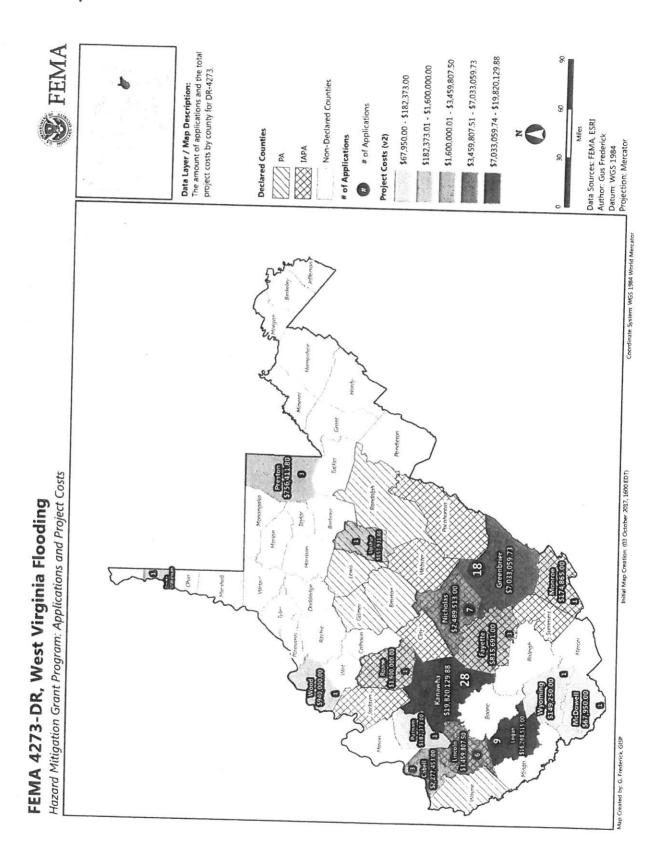
   a. PPDR extension ending December 25, 2017.
   b. Contract demolition work extended until April 15, 2018.
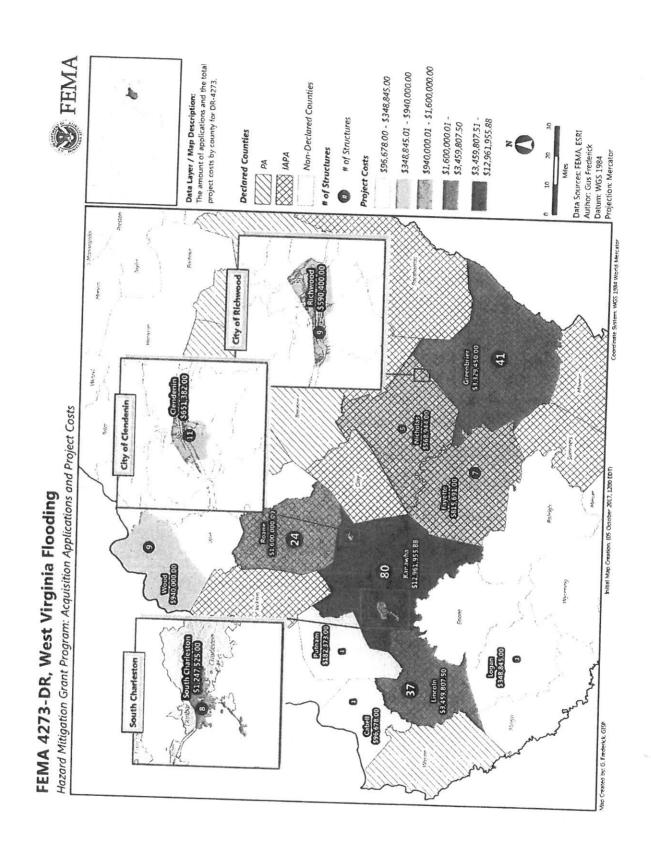
Federal Assistance Overview
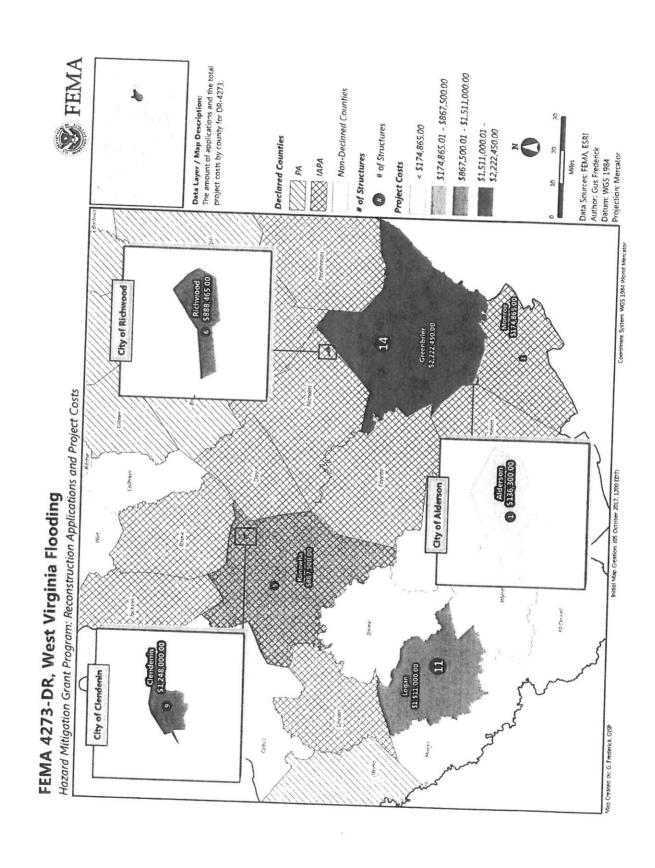
Funding Type	Total Federal Allocation	State Match	Purpose of Funding
Public Assistance (PA)	$305,500,000	$102,000,000	Debris removal, emergency protective measures, and the repair, replacement, or restoration of disaster-damaged publicly-owned facilities
HUD CDBG-DR	$149,000,000	-	Housing, economic development, infrastructure
Hazard Mitigation Grant Program (HMGP)	$52,000,000	$17,400,000	Housing and infrastructure
Mission Assignment	$108,000,000	$36,000,000	Completion of specified tasks by other feds in response to a Stafford Act event.
Small Business Administration (SBA) Loans	$53,000,000	-	Home and business loan program
(IA) Housing Assistance	$35,600,000	-	Home repair and rental assistance
(IA) Other Needs Assistance	$5,100,000	$1,680,000	Medical and dental expenses, funeral expenses, personal property, transportation
Disaster Case Management Grant	$5,820,000	-	Disaster case management services
National Dislocated Workers Grant	$3,500,000	-	Employment for displaced workers
(IA) Regular Service Program	$2,200,000	-	Crisis counseling services
MHU Mission	$5,580,000	-	Hauling, installation, maintenance and de-activation of all MHUs
406 Mitigation	$1,280,000	-	Mitigation measures in conjunction with the repair of disaster-damaged facilities
Immediate Needs Assistance	$810,000	$270,000	Survivor supplies for victims
(IA) Immediate Service Program	$304,000	-	Crisis counseling services
106 Mitigation	$250,000	-	Mitigation efforts that consider the effects of actions on historic properties
Disaster Unemployment Assistance	$213,000	-	Unemployment assistance
Total (Non-Management)	$728,157,000	$157,350,000	
PA Section 324 Management Costs	$10,000,000	-	Indirect costs and administrative expenses
HMGP State Management Costs	$2,500,000	-	Indirect costs and administrative expenses
Total (State Management Only)	$12,500,000		

Summary of Deadlines

2017			2018						
NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG

Nov. 3:
HMGP
Deadline
(Applicants)

Nov. 12:
CDBG-DR
Substantial
Amendment
Deadline

Nov. 30:
CDBG-DR
Deadline
(Applicants)

Dec. 22:
HMGP
Deadline
(State)

Dec. 25:
PPDR
Program
Extension
expires

March 22:
HMGP
Extension
(Pending
approval)

Aug. 18:
CDBG-DR
Deadline
(State)

Map

FEMA 4273-DR, West Virginia Flooding
Hazard Mitigation Grant Program: Applications and Project Costs

Data Layer / Map Description:
The amount of applications and the total project costs by county for DR-4273.

Declared Counties
- PA
- IAPA
- Non-Declared Counties

# of Applications
- (#) # of Applications

Project Costs (v2)
- $67,950.00 - $182,373.00
- $182,373.01 - $1,600,000.00
- $1,600,000.01 - $3,459,807.50
- $3,459,807.51 - $7,033,059.73
- $7,033,059.74 - $19,820,129.88

N

0 30 60 90 Miles

Data Sources: FEMA, ESRI
Author: Gus Frederick
Datum: WGS 1984
Projection: Mercator

Map Created by: G. Frederick, GISP   Initial Map Creation: (03 October 2017, 1600 EDT)

Coordinate System: WGS 1984 World Mercator

FEMA 4273-DR, West Virginia Flooding
Hazard Mitigation Grant Program: Acquisition Applications and Project Costs

Data Layer / Map Description:
The amount of applications and the total project costs by county for DR-4273.

Declared Counties
PA
IAPA
Non-Declared Counties

# of Structures
# of Structures

Project Costs
$96,678.00 - $348,845.00
$348,845.01 - $940,000.00
$940,000.01 - $1,600,000.00
$1,600,000.01 - $3,459,807.50
$3,459,807.51 - $12,961,955.88

Data Sources: FEMA ESRI
Author: Gus Frederick
Datum: WGS 1984
Projection: Mercator

Miles
0 10 20 30

City of Richwood
Richwood $590,400.00 9

City of Clendenin
Clendenin $651,382.00 11

South Charleston
South Charleston $1,247,525.00 8

Wood $940,000.00 9

Roane $1,600,000.00 24

Nicholas $563,944.00 5

Greenbrier $3,329,450.00 41

Fayette $615,651.00 7

Kanawha $12,961,955.88 80

Putnam $182,373.00 1

Cabell $96,678.00 1

Lincoln $3,459,807.50 37

Logan $348,845.00 3

Map Created by: G. Frederick, GISP

Coordinate System: WGS 1984 World Mercator

Initial Map Creation (05 October 2017, 1200 EDT)

FEMA 4273-DR, West Virginia Flooding

Hazard Mitigation Grant Program: Reconstruction Applications and Project Costs

Data Layer / Map Description:
The amount of applications and the total project costs by county for DR-4273.

Declared Counties
- PA
- IAPA
- Non-Declared Counties

# of Structures
- # of Structures

Project Costs
- < $174,865.00
- $174,865.01 - $867,500.00
- $867,500.01 - $1,511,000.00
- $1,511,000.01 - $2,222,450.00

N

Miles
0 10 20 30

Data Sources: FEMA, ESRI
Author: Gus Frederick
Datum: WGS 1984
Projection: Mercator

City of Richwood
Richwood
6 $888,465.00

Greenbrier
$2,222,450.00
14

Monroe
$174,865.00
1

City of Alderson
Alderson
1 $136,300.00

Kanawha
$867,500.00
5

City of Clendenin
Clendenin
9 $1,248,000.00

Logan
$1,511,000.00
11

Map Created by: G. Frederick, GISP

Initial Map Creation (05 October 2017, 1200 EDT)

Coordinate System WGS 1984 World Mercator

FEMA 4273-DR, West Virginia Flooding
Hazard Mitigation Grant Program: Elevation Applications and Project Costs

FEMA

Data Layer / Map Description:
The amount of applications and the total project costs by county for DR-4273.

Declared Counties
- PA
- IAPA

Non-Declared Counties

# of Structures
- # of Structures

Project Costs
- $197,115.00
- $322,000.00
- $576,100.00

City of Richwood

Richwood
$197,115.00

2

Greenbrier
$576,100.00

6

City of Clendenin

Clendenin
$322,000.00

3

N

Miles
0   10   20   30

Data Sources: FEMA, ESRI
Author: Gus Frederick
Datum: WGS 1984
Projection: Mercator

Map Created by: G. Frederick GISP

Initial Map Creation (05 October 2017, 1300 EDT)

Coordinate System: WGS 1984 World Mercator

RISE WEST VIRGINIA

Applicant Distribution by County

West Virginia CAD

STATE OF WEST VIRGINIA
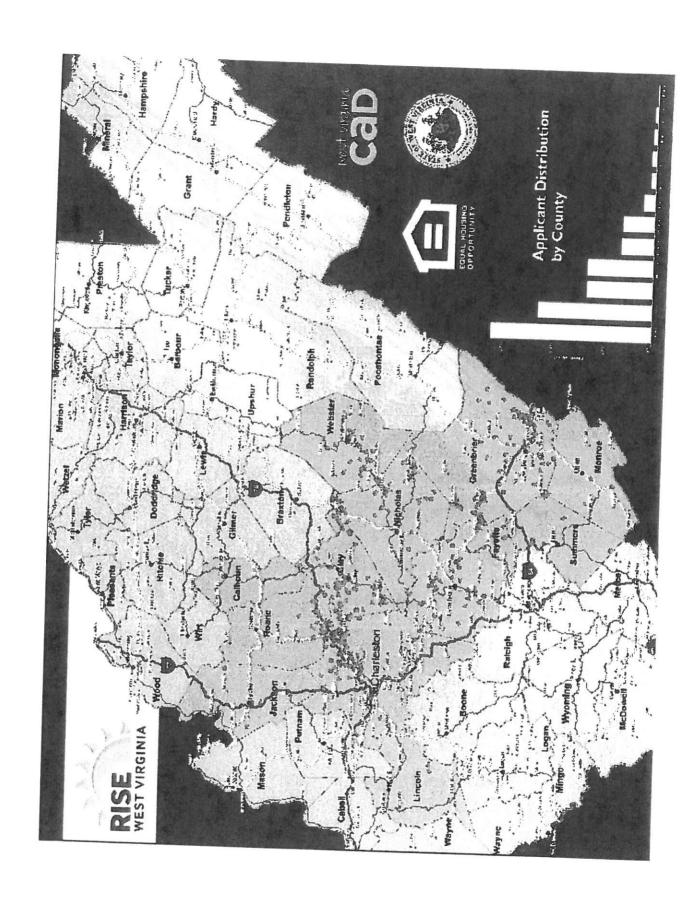
EQUAL HOUSING OPPORTUNITY

Summit Decision Points

Session #1: Identify and Agree to State Recovery Priorities

1. Are there specific focus areas for disaster recovery funds or will funds be spread across entire state? Does the current model of distribution work best?
2. Is there a need for one department to take the lead in a specific priority area or should each department address the need where possible?
3. Can existing initiatives or emerging industries be leveraged in affected communities?
4. How can non-disaster funds support the priorities and strategy from 4273 and beyond?
5. Is there consensus among stakeholders on the identified priorities during the summit?

Session #2: Draft Action Plan for Achieving State Recovery Priorities

1. Should an action officer be identified and empowered to lead the process to create a framework?
2. What does a completed framework look like and how can it applied statewide?
3. Is there long-term applicability for the framework? If so, how long will the current priorities and strategies be relevant?
4. Will this framework be updated over time? If so, who will take the lead to regularly review the framework and convene meetings?
5. How does the WV State Resiliency Office tie into the process?

Tarry, Russell W

FYI

James Young
Interagency Recovery Coordination Lead
West Virginia Recovery Office; Region III
202.394.0229 - james.young@fema.dhs.gov

From: Young, James
Sent: Friday, November 17, 2017 2:54 PM
To: Farkas, Brian <bfarkas@wvca.us>
Subject: Discussion on Monday

Brian,

In preparation for our meeting on Monday, I wanted to forward you a few pertinent documents regardir the work from the session and its relationship to standing up the SRO. I believe that the framework for the SRO is the next step that needs to be taken. I've tried to draw parallels from the outcomes of the session and how it can fit into the overall framework. I'll explain everything in greater detail on Monday, but I wanted to go ahead and get some things to you in advance. Attached are the following documents:

- A rough visual of the components of the SRO framework with information from the session added where appropriate.
- A framework matrix that goes into greater detail.
- Some background notes from Colorado's framework process .

Again, I just wanted to get this to you today, but we will discuss in detail on Monday. Thanks and have a good weekend.

James Young
Interagency Recovery Coordination Lead
West Virginia Recovery Office; Region III
202.394.0229 - james.young@fema.dhs.gov

Resiliency Framework vs. Resiliency Plan

The Resilience Framework is (1) a structure with defined groups, roles and responsibilities, and whole community participation to ensure an integrated and uniform approach to improve resilience across the state, (2) a process that will result in resilience guidance for use by communities and stakeholders throughout the state, and (3) approaches for effective communication, cross-discipline coordination, and increased collaboration. The Colorado structure includes the Governor's Leadership Committee and the Colorado Resiliency Working Group, which includes a steering committee, six functional Sector Committees, a Risk Analysis Committee, and a Communications and Engagement Committee.

The framework is not the same as a resilience plan. A Resilience Plan is a forward-leaning, strategic and living document that (1) considers risks and vulnerabilities across economic, health and social services, housing, infrastructure, watersheds and natural resources, and community sectors; (2) examines likely resilience issues and their causes; (3) develops and prioritizes possible strategies to address those issues and build resilience; (4) identifies known and needed.

Definitions of Resiliency

- Ability of communities to rebound from and positively adapt to, or thrive amidst, unexpected or adverse situations, including disasters and climate change, to ensure quality of life, healthy growth, durable systems, and conservation of resources for today and tomorrow.

- Community resilience is the capability to anticipate risk, limit impact, and bounce back rapidly through survival, adaptability, evolution, and growth in the face of turbulent change.

- The capacity of a system, community, or society potentially exposed to hazards to adapt, by resisting or changing, in order to reach and maintain an acceptable level of functioning and structure.

- For individuals and communities, resilience means the ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions. Disruptions can include deliberate attacks, accidents, potential threats, and naturally occurring incidents. Discussions of resilience will vary depending on the focus of the effort and stakeholders involved (e.g., individuals, communities, regions), the scale and time frame of planning and rebuilding efforts, and the expected return frequency and severity of the event or stressor.

Additional Vision Statements

- A resilient state of diverse communities and regions that effectively collaborate, plan, develop, manage resources, and maintain flexibility and adaptability to support Colorado's lifestyle, continued growth, and quality of life for today and tomorrow.

- A state where communication, diversity, preparedness, community-based planning, smart and safe development, flexibility, efficient resource management, systems approach, education, and collaboration enable sustainable quality of life.

- A Resilient Colorado has the flexibility, diversity and adaptability to develop or redevelop in a way that maintains or enhances natural resources, built environments, and the Colorado lifestyle.

- Resilient Colorado communities that support diverse populations and economy, community services, livelihood and engagement; provide risk awareness, minimization of impacts, conservation of resources, protection of assets and redundancy in infrastructure; employ systems thinking, community-based processes and informed decisions; demonstrate self-sufficiency, self-reliance, flexibility and adaptability; and maintain effective communications at all levels.

- A state with systems that build physical, economic, environmental, and social capacity to reduce vulnerabilities, manage known risks, and allow future incident responders to maintain acceptable levels of functioning across all systems and quickly adapt system structures to changing risk and vulnerability scenarios.

Potential Guiding Principles

- **Whole Community** – Participants from all sectors of a community, all levels of government, and individuals and families are important to and should be included in the process
- **Community-based** – Be locally driven to ensure local-buy in, community engagement, and decision-making at the local level
- **Transparency** – Information and actions will be shared openly with partners and stakeholders
- **Communication** – ensure information exchange is possible, use and expand existing communication networks
- **Informed Decision-Making** – promote information-sharing and provide education and outreach
- **Education and Outreach** - Promote long-term resilience and sustainability planning and practices through education, outreach, incentives and identification of benefits at a local level

- **Empowerment** - Empower individuals and families to be more resilient and contribute to sustainability while carefully explaining individual/local responsibility and accountability in risk management
- **Leadership** – Recognize leadership at every level, starting with the locals
- **Collaboration** – Institutionalize whole community collaboration - work across functional areas and boundaries by breaking down silos at all levels of government, nonprofits, community groups, etc.
- **Partnerships** -- Build on strengths and existing partnerships while developing new partnerships and capabilities – there is an opportunity for public-private partnerships
- **Regionalism** – Think and act regionally, emphasizing a systems approach
- **All-Hazards** – Use an all-hazards approach, including even the less obvious risks such as asthma.
- **Flexibility and Adaptability** – Build robust networks to be more flexible and adaptable to changing conditions and adverse events
- **Improvement** – Define and use adaptive management techniques and iterative process where everything is continually evaluated – apply this to regulatory framework
- **Opportunity** – Take advantage of all resources, including experts, peer communities, government, universities, etc.
- **Efficiency** – Conserve resources
- **Equity** – Ensure equity in distribution of resources
- **Best Practices** – Learn from other communities – incorporate their resilience best practices and lessons learned into planning, policies, programs and activities – but look beyond best practices to set a new benchmark o *NOTE:* best practices include enforced building codes and government purchase of hazardous land areas
- **Outcomes-Based** – Use metrics and cost-benefit analysis to be more outcome-based

Potential Focus Sectors
- Community/Society
- Individuals & Families
- Agriculture
- Economic
- Environmental
- Natural Resources
- Health
- Housing
- Infrastructure
- Land Use
- Watersheds

What Does Resiliency Look Like?

1. People understand the risks that may affect them and others in their community. They understand the risks assessed, particularly those in their local area. They have comprehensive local information about hazards and risks, including who is exposed and who is most vulnerable. They take action to prepare for disasters and are adaptive and flexible to respond appropriately during emergencies.

2. People have taken steps to anticipate disasters and to protect themselves and their assets, including their homes and possessions, cultural heritage and economic capital, therefore minimizing physical, economic and social losses. They have committed the necessary resources and are capable of organizing themselves before, during and after disasters which helps to restore social, institutional and economic activity.

3. People work together with local leaders using their knowledge and resources to prepare for and deal with disasters. They use personal and community strengths, and existing community networks and structures; a resilient community is enabled by strong social networks that offer support to individuals and families in a time of crisis.

4. People work in partnership with emergency services, their local authorities and other relevant organizations before, during and after emergencies. These relationships ensure community resilience activities are informed by local knowledge, can be undertaken safely, and complement the work of emergency service agencies.

5. Emergency management plans are resilience-based, to build disaster resilience within communities over time. Communities, governments and other organizations take resilience outcomes into account when considering and developing core services, products and policies. They are adaptive and flexible to respond to disasters.

6. Businesses and other service providers undertake wide-reaching business continuity planning that links with their security and emergency management arrangements.

7. Land use planning systems and building control arrangements reduce, as far as is practicable, community exposure to unreasonable risks from known hazards, and suitable arrangements are implemented to protect life and property, and

8. Following a disaster, a satisfactory range of functioning is restored quickly. People understand the mechanisms and processes through which recovery assistance may be made available and they appreciate that support is designed to be offered, in the first instance, to the most vulnerable community members.

West Virginia State Resiliency Office Framework

Vision Statement

Guiding Principle #1 — Mitigation
Guiding Principle #2 — Job Creation
Guiding Principle #3

Sector #1 — Infrastructure
Sector #2 — Economic Development
Sector #3 — Housing
Sector #4
Sector #5

Infrastructure
1. Shocks & Stresses
2. Strengths & Challenges
3. Goals
4. Strategies
5. Recommendations

Economic Development
1. Shocks & Stresses
2. Strengths & Challenges
3. Goals
4. Strategies
5. Recommendations

Housing
1. Shocks & Stresses
2. Strengths & Challenges
3. Goals
4. Strategies
5. Recommendations

Sector #4
1. Shocks & Stresses
2. Strengths & Challenges
3. Goals
4. Strategies
5. Recommendations

Sector #5
1. Shocks & Stresses
2. Strengths & Challenges
3. Goals
4. Strategies
5. Recommendations

Sector Strengths & Challenges	Sector specific committees and approval by SRO board	N/A	
Goals	Sector specific committees and approval by SRO board	N/A	1. Evaluate the current condition of the state's sector, systems and infrastructure to predict how they will perform during a disaster and how quickly they can be restored if disrupted or damaged. 2. Develop targets for the desired levels of performance. 3. Develop target timeframes for the restoration of services and functions following a disaster. 4. Define the vulnerabilities and key interdependencies of each sector. (For example, when considered alone, water might be restored within a day, but its vulnerability is that it depends on electricity, which could take longer than a day. 5. Prepare recommendations for statewide action to achieve desired targets.
Strategies	Sector specific committees and approval by SRO board	N/A	1. Identify agency programs, resources and authorities to support disaster recovery. 2. Address priority areas where consensus was not gained and provide recommendations to senior officials. 3. Identify additional resources and technical assistance that can be offered to disaster impacted communities. 4. Identify additional coordination opportunities within department and network.
Recommendations	Sector specific committees and approval by SRO board	N/A	

West Virginia Resilient Community Workshops

I. Purpose

To provide communities impacted by the 2016 flood with a technical assistance workshop to develop a strategic recovery and resiliency action plan. The tailored workshop will built upon input from key stakeholders, and the action plan will contribute to the long term recovery and resiliency of their communities. State and federal resources will work with communities to identify potential funding sources for implementation of the plan.

II. Objectives

1. Identify up to three (3) high impact/low capacity communities affected by the June 2016 floods that have a need to develop a strategic action plan for disaster recovery.
2. Hold a consultation with community leaders to determine the needs of the area and work collaboratively to identify relevant topic areas for the workshop.
3. Provide a targeted and tailored 2 day workshop to the communities using state and federal resources that culminates in the creation of an action plan to address specific community needs and long-term resiliency.
4. Showcase targeted examples from West Virginia communities who are planning and moving toward the economic, social and environmental sustainability of their communities through EPA Technical Assistance programs.
5. Utilize graduate level Environmental Science students to offer additional consultation services to benefit communities.
6. Assist with the identification of state and federal resources to implement the projects and policies identified in the action plan.

III. Deliverables

1. Custom, two day-workshop focused on targeted and community specific recovery priorities and objectives.
2. Detailed action plan that summarizes workshop activities and recommends strategies and funding sources to assist long-term recovery.
3. Additional research and action plan developed by Environmental Science graduate students.
4. FEMA/EPA collaboration model that can be duplicated in other regions of the country.

IV. Proposed Targeted Topics

Through the consultation process, communities will be given a menu of potential topics to address at the workshop. FEMA and EPA will talk through the options and help the communities to identify relevant focus areas for their community's disaster recovery process. EPA will then build a team of subject matter experts around the identified topics, who will facilitate the workshop and assist in the completion of the action plan. Graduate students will work with the other partners to identify specific topic areas to assist the communities and fulfill class requirements. State and federal partners will assist with the identification of funding and resources to help the communities to implement the action plan. Potential topic areas include:

- **Downtown Revitalization / Main Street:** Strategies to strengthen or revitalize traditional downtowns and main streets, and to boost the local economy, improve quality of life and strengthen overall resiliency.
- **Outdoor Recreation for Economic Development**: Strategies to enhance current recreational assets, and assessment and recommendations to expand outdoor recreational facilities and spur economic development.
- **Local Foods/Sustainable Farming**: Strategies that promote local foods/sustainable agriculture, community gardens and overall community revitalization.
- **Broadband Access**: Strategies for how to: leverage current broadband capabilities; expand/improve access speed; and ways broadband can improve quality of life, attract economic development and make communities more resilient.
- **Healthy Places for Healthy People**: Strategies to help communities create walkable, healthy, economically vibrant places by engaging with their health care facility partners such as community health centers (including Federally Qualified Health Centers), nonprofit hospitals, and other health care facilities.
- **Green Infrastructure/Stormwater Management:** Planning and strategy development that integrates stormwater management and nuisance flooding with broader community plans for economic development, infrastructure investment and environmental compliance.
- **Flood Resilience**: Strategies to help communities prepare for natural disasters and plan for disaster resilience by assessing local plans, policies, and development regulations.
- **Preservation of Existing & Historic Buildings**: Discussion and strategies of how preservation and reuse of historic buildings supports sustainable communities.
- **Water, Wastewater, Energy Utility Resiliency:** Providing sources of alternate power to the drinking water pump stations, wastewater treatment and power for continuous energy supply.
- **Business Resiliency:** Strategies to develop and increase the number of businesses with continuity and succession plans to assist with post disaster recovery.

Additional topics can be discussed during the consultation and used if team of subject matter experts can be developed for the workshop.

V. Workshop Timeline

Action Item	Deadline
Finalize List of Communities	January 2018
Hold Community Consultations	February 2018
Finalize Dates for Workshops	March 2018
Secure Locations for Workshops	March 2018
Deliver Workshops	April – May 2018
Complete Action Plan	June 2018
Hold Follow Up Consultation with Communities	July – August 2018

VI. Role of Environmental Science Graduate Students

Through EPA and FEMA networks, Dr. Terry Polen of the West Virginia Department of Environmental Protection has been identified as a partner and stakeholder in the recovery efforts. Dr. Polen is also an adjunct professor in the Environmental Sciences Department at the University of Maryland's City College. He teaches an online, graduate level course and has offered his student's services to support the long-term recovery in West Virginia. There is a natural connection to the environmental science course and resilience needs in the impacted communities. The students will perform the proposed objectives during the spring 2018 semester:

1. After the community consultation, the students will select 1-2 topic areas for each community that fulfill course requirements for their program.
2. Students will spend the semester: researching the topic and town; analyzing case studies and other resources; and creating strategies and a report to be presented and discussed at the workshop.
3. After community input is received, the students will revise their report by incorporating the new community input or any additional information.
4. The students will then submit the final draft of the report to the community.
5. FEMA, EPA and the students will ultimately discuss the final report with the communities during the follow up consultation.

VII. Pre-Workshop Actions Items

1. Identify up to three flood impacted communities to create a custom, two-day showcase workshop to support the long-term recovery and resiliency of the community. Proposed communities include:
   a. Clendenin
   b. Richwood
   c. White Sulphur Springs or Rainelle (Phase II Project)

2. Send the communities a questionnaire and read ahead documents in preparation for consultation.

3. Hold a community consultation with stakeholders to assess current needs and identify relevant resiliency topics. Proposed participants will include, but not be limited to:
   a. Mayor
   b. Council Representation
   c. County Commission
   d. Regional Planning & Development Council
   e. Local non-profit organizations
   f. Representation from Long-Term Recovery Committee

4. Consult with graduate students to determine scope of their work for each community.
5. Identify and secure physical location for the workshops.
6. Identify and secure facilitation and support staff for workshops.
7. Identify West Virginia or regional examples from EPA Technical Assistance and brownfields programs as case studies for resilience.
8. Identify appropriate local, state and federal contacts to participate in workshops. Proposed participants will include, but not be limited to:

Local	State	Federal
Mayor & Council	WV DHSEM	FEMA
County Commission	WV Department of Commerce	HUD
RPDC	WVNG	EDA
LTRC	WV DEP	EPA
Non-Profit Organizations	WV Brownfield Centers	USACE
Chamber of Commerce	WVU Land Use Clinic	ARC

*Additional participants will be invited once a community chooses topical areas for the workshop.